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Uri Banin

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EXAMINER

GEISEL, KARA E

ART UNIT

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2877

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/564,036	Applicant(s) BANIN ET AL.	
	Examiner KARA E. GEISEL	Art Unit 2877	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 January 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>0806, 1006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Preliminary Amendment

The preliminary amendment filed on August 4th, 2006, has been entered into this application.

Information Disclosure Statement

The information disclosure statements filed August 4th, 2006 and October 13th, 2006 have been considered by the examiner.

Drawings

The drawings are objected to because figs. 7A-B are of very poor quality and half of the drawings cannot be seen. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1-7, 14, and 16-38 are objected to because of the following informalities: numerous typographical errors.

There are numerous typographical errors throughout the claims. Some examples are:

Claim 1, line 1, "at a a".

Claim 2, line 1, "wherin".

Claim 3, line 3, "layeris" and "manolayer".

Claim 5, line 3, "semiconductor =".

Claim 6, line 4, "ore", and it appears "of these shapes" needs to be deleted since it does not appear to make sense within the claim.

Claim 14, line 4, "tips".

Claim 21, line 2, "configures" should be changed to --configured--. Furthermore, FRET should be described in the claim (i.e. Fluorescence Resonance Energy Transfer (FRET)).

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Claim 23, line 3, "microscopy", should be changed to --microscope--.

Claim 27 appears to be a sentence fragment, not a full sentence, and needs to be revised.

Claim 29, line 3, "any one" should be deleted.

Claim 32, line 2, "fro". Furthermore, FRET should be described in the claim (i.e. Fluorescence Resonance Energy Transfer (FRET)).

Claim 37, "in by scanning probe", appears should be corrected to --by scanning probe--.

These are merely the examples discovered by the Examiner. It is requested that the applicant review the claims for any other typographical errors present.

In regards to claim 2, it appears applicant is trying to claim a Markush Group. In order to correctly claim this, "a material selected from", should be corrected to --a material selected from the group consisting of--.

In regards to claim 6, it appears applicant is trying to claim a Markush Group. In order to correctly claim this, "a variety of shapes selected from", should be corrected to --a shape selected from the group consisting of--.

Appropriate correction is required.

Claims, which depend on objected to claims, inherit the problems of these claims, and are therefore, also objected to.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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Claims 7 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 7 discloses "mixtures thereof", but does not describe in the specification which mixtures are enabled. Claim 9 discloses "combinations of these metals", but does not describe in the specification which combinations are enabled.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-7, 9-10, and 32-38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In regards to claim 6, "nanoparticles are nanocrystals with a variety of shapes" is unclear and indefinite. Does each nanocrystal have a variety of shapes, does one nanocrystal have a shape different from another nanocrystal, or does each nanocrystal have the same shape selected from the group described? Clarification is required.

In regards to claim 7, "are made of a material comprising..." it is not clear from the claim whether the nanoparticles are supposed to comprise all the materials disclosed, or just one of them. If this was supposed to be a Markush group (as the Examiner is interpreting it to be for purposes of applying prior art), then the claim will need to read, "are made of a material selected from the group consisting of". Furthermore, since the "mixtures thereof" are not disclosed in the specification, so many combinations could be made with the materials described, that it is not clear what the metes and bounds of the claim are

In regards to claim 9, "coated by a material selected from..." it is not clear from the claim whether the nanoparticles are supposed to comprise all the materials disclosed, or just one of them. If this was

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supposed to be a Markush group (as the Examiner is interpreting it to be for purposes of applying prior art), then the claim will need to read, "coated by a material selected from the group consisting of". Furthermore, since the "combinations of these metals" are not disclosed in the specification, so many combinations could be made with the materials described, that it is not clear what the metes and bounds of the claim are

In regards to claim 10, it is not clear from the claim or the specification what is meant by "activating said at least portion of the tip". Clarification is required.

Claims 32-38 provide for the use of the tip device, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 32-38 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claims, which are dependent from rejected claims inherit the problems of these claims, and are therefore also rejected under 35 U.S.C. 112, second paragraph.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-9, 11-12, and 16-38 are rejected under 35 U.S.C. 102(b) as being anticipated by Quake (USPN 6,002,471).

In regards to claim 1, Quake discloses a tip device (fig. 1, 10) having at a portion thereof with an outer surface bound to a layer of a material comprising nanoparticles (7; column 2, lines 43-50), the nanoparticles acting as active media with respect to electromagnetic radiation (column 1, lines 38-59).

In regards to claim 2, the portion of the device is made of a material selected from insulator-, semiconductor-, or conductor-based material (column 2, line 41).

In regards to claim 3, the thickness of the nanoparticles-containing layer is from sub-monolayer to multiple layers (column 2, lines 51-52).

In regards to claim 4, the nanoparticles are bound to said outer surface either directly or through a linker molecule (column 2, lines 45-47).

In regards to claim 5, the nanoparticles are made of semiconductor, metal or oxide materials (column 2, lines 48-50).

In regards to claim 6, said nanoparticles are nanocrystals with a variety of shapes selected from spherical or nearly spherical, rod, branched shape, wire, tube or core-shell layered structures (column 2, lines 44-45).

In regards to claim 7, said nanoparticles are made of a material comprising CdSe/ZnS, InAs, InP, GaP, GaAs, InSb, GaSb, GaN, Si, Ge, CdTe, CdTe, CdSe, ZnSe, ZnO, Au, Ag, Pt, Ni, Pd, In, Bi or mixtures thereof (column 2, lines 48-50).

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In regards to claim 8, Quake discloses method of forming a tip (fig. 9) device having at least a portion thereof operable as active media with respect to electromagnetic radiation (column 1, lines 38-59), the method comprising reacting a nanoparticles solution, powder or film with at least a portion of a tip so as to bind a layer of nanoparticles to an outer surface of said at least portion of the tip (column 4, line 60 - column 5, line 5), said nanoparticles acting as the active media with respect to electromagnetic radiation (column 1, lines 38-59).

In regards to claim 9, said tip device is made of or coated by a material selected from Si, Au, Ag, Pt, Ti, Co, Cr, Ir, combinations of these metals, Si₃N₄, TiN, glass, diamond and carbon (column 2, lines 41-53).

In regards to claim 11, said tip is made of a material selected from insulator-, semiconductor- or conductor-based material (column 2, line 41).

In regards to claim 12, the thickness of the nanoparticles-containing layer bound to the outer surface of the tip is from sub-monolayer thickness to multiple layers thickness (column 2, lines 51-52).

In regards to claim 16, Quake discloses an optical apparatus for the use in analyzing a sample, the apparatus comprising at least one tip device configured according to claim 1 (see above and fig. 1, 3-4).

In regards to claim 17, the apparatus comprises a light source assembly (7), which comprises a pumping source operable to generate excitation radiation and said at least one tip device (10, 17), which when pumped emits exciting energy to irradiate a sample and thus cause a radiation response of the sample (column 5, lines 6-45).

In regards to claim 18, the apparatus comprises a light source assembly (7), which comprises a pumping source (7) and said at least one tip device (10), the tip device when pumped by exciting radiation absorbs the exciting energy and transfers this energy, by a dipolar mechanism or by direct emission of a photon, to irradiate a sample and thus cause a sample response thereto (column 5, lines 6-45).

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In regards to claim 19, the apparatus comprises a light source assembly (7) and detection assembly (8-9), the detection assembly comprising said at least one tip device (10), which when excited by energy coming from a sample, generates a radiation response indicative of the sample excitation (column 5, lines 6-45).

In regards to claim 20, the apparatus comprises a light source assembly (7) and a detection assembly (8-9), the detection assembly comprising said at least one tip device (10), the tip device, when being excited by energy coming from a sample, either directly by absorption or by a dipolar energy transfer mechanism, generates a radiation response indicative of the sample excitation (column 5, lines 6-45).

In regards to claims 21-28, with an apparatus “configured and operable as a...” it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987). Since applicant does not disclose in the claims the structural differences that would cause this apparatus to be employed in the claimed way, the apparatus of Quake reads on these claims.

In regards to claim 29, Quake discloses a method for use in imaging a sample, the method comprising causing an energy interaction in a donor-acceptor pair formed by the tip of claim 1 and the sample (column 5, lines 6-45 and see above), and detecting a radiation response to said interaction indicative of sample characteristics (via 8-9).

In regards to claim 30, the radiation response includes radiation generated in the sample in response to exciting energy coming from the tip (column 5, lines 6-45).

In regards to claim 31, the radiation response includes radiation generated by the tip in response to exciting energy coming from the sample (column 5, lines 6-45).

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In regards to claims 32-38 with a tip device being used “for FRET based microscopy”, “as a light source”, “for Raman microscopy”, “for second harmonic generation microscopy”, “for non-linear microscopy”, “for topography imaging”, and “for chemical force microscopy imaging”, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

Claims 1-9, 11-12, and 16-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Anderson (USPN 6,850,323).

In regards to claim 1, Anderson discloses a tip device (fig. 1) having at a portion thereof with an outer surface bound to a layer of a material comprising nanoparticles (10; column 2, lines 27-29 and column 4, lines 24-26), the nanoparticles acting as active media with respect to electromagnetic radiation (column 1, lines 45-48).

In regards to claim 2, the portion of the device is made of a material selected from insulator-, semiconductor-, or conductor-based material (column 4, line 20).

In regards to claim 3, the thickness of the nanoparticles-containing layer is from sub-monolayer to multiple layers (column 1, lines 63-67).

In regards to claim 4, the nanoparticles are bound to said outer surface either directly or through a linker molecule (column 4, lines 17-30).

In regards to claim 5, the nanoparticles are made of semiconductor, metal or oxide materials (column 1, lines 57-65).

In regards to claim 6, said nanoparticles are nanocrystals with a variety of shapes selected from spherical or nearly spherical, rod, branched shape, wire, tube or core-shell layered structures (column 1, lines 63-67 grains are generally nearly spherical).

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In regards to claim 7, said nanoparticles are made of a material comprising CdSe/ZnS, InAs, InP, GaP, GaAs, InSb, GaSb, GaN, Si, Ge, CdTe, CdTe, CdSe, ZnSe, ZnO, Au, Ag, Pt, Ni, Pd, In, Bi or mixtures thereof (column 1, lines 55-63).

In regards to claim 8, Anderson discloses method of forming a tip (the tip of fig. 1, 10) device having at least a portion thereof operable as active media with respect to electromagnetic radiation (column 2, lines 27-29 and column 4, lines 24-26), the method comprising reacting a nanoparticles solution, powder or film with at least a portion of a tip so as to bind a layer of nanoparticles to an outer surface of said at least portion of the tip (column 4, lines 17-26), said nanoparticles acting as the active media with respect to electromagnetic radiation (column 2, lines 27-29 and column 4, lines 24-26).

In regards to claim 9, said tip device is made of or coated by a material selected from Si, Au, Ag, Pt, Ti, Co, Cr, Ir, combinations of these metals, Si₃N₄, TiN, glass, diamond and carbon (column 3, lines 27-29 and column 4, lines 17-24).

In regards to claim 11, said tip is made of a material selected from insulator-, semiconductor- or conductor-based material (column 4, line 20).

In regards to claim 12, the thickness of the nanoparticles-containing layer bound to the outer surface of the tip is from sub-monolayer thickness to multiple layers thickness (column 1, lines 63-67).

In regards to claim 16, Anderson discloses an optical apparatus for the use in analyzing a sample, the apparatus comprising at least one tip device configured according to claim 1 (see above and fig. 1, 18).

In regards to claim 17, the apparatus comprises a light source assembly (18 and column 4, lines 27-30), which comprises a pumping source operable to generate excitation radiation and said at least one tip device (10), which when pumped emits exciting energy to irradiate a sample and thus cause a radiation response of the sample (column 4, lines 30-58).

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In regards to claim 18, the apparatus comprises a light source assembly (18 and column 4, lines 27-30), which comprises a pumping source (18) and said at least one tip device (10), the tip device when pumped by exciting radiation absorbs the exciting energy and transfers this energy, by a dipolar mechanism or by direct emission of a photon, to irradiate a sample and thus cause a sample response thereto (column 3, lines 28-59).

In regards to claim 19, the apparatus comprises a light source assembly and detection assembly, the detection assembly comprising said at least one tip device, which when excited by energy coming from a sample, generates a radiation response indicative of the sample excitation (column 4, lines 17-57).

In regards to claim 20, the apparatus comprises a light source assembly and a detection assembly (18 and column 4, lines 27-32), the detection assembly comprising said at least one tip device (10), the tip device, when being excited by energy coming from a sample, either directly by absorption or by a dipolar energy transfer mechanism, generates a radiation response indicative of the sample excitation (column 3, lines 28-50).

In regards to claims 21-28, with an apparatus “configured and operable as a...” it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987). Since applicant does not disclose in the claims the structural differences that would cause this apparatus to be employed in the claimed way, the apparatus of Anderson reads on these claims.

In regards to claim 29, Anderson discloses a method for use in imaging a sample, the method comprising causing an energy interaction in a donor-acceptor pair formed by the tip of claim 1 and the sample (column 3, lines 28-50 and see above), and detecting a radiation response to said interaction indicative of sample characteristics (column 4, lines 30-32 discloses the CCD used for detection).

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In regards to claim 30, the radiation response includes radiation generated in the sample in response to exciting energy coming from the tip (column 3, lines 28-59).

In regards to claim 31, the radiation response includes radiation generated by the tip in response to exciting energy coming from the sample (column 3, lines 28-59).

In regards to claims 32-38 with a tip device being used “for FRET based microscopy”, “as a light source”, “for Raman microscopy”, “for second harmonic generation microscopy”, “for non-linear microscopy”, “for topography imaging”, and “for chemical force microscopy imaging”, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

Claims 1-5, 7-17, 19, 21-28, and 32-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Pantano et al. (USPN 6,487,326).

In regards to claim 1, Pantano discloses a tip device (fig. 3, 1 and fig. 1b)) having at a portion thereof with an outer surface bound to a layer of a material comprising nanoparticles (9), the nanoparticles acting as active media with respect to electromagnetic radiation (the tip device is used in FRET applications).

In regards to claim 2, the portion of the device is made of a material selected from insulator-, semiconductor-, or conductor-based material (fig. 9, Si).

In regards to claim 3, the thickness of the nanoparticles-containing layer is from sub-monolayer to multiple layers (column 3, lines 10-15).

In regards to claim 4, the nanoparticles are bound to said outer surface either directly or through a linker molecule (fig. 9; MPS being the linker molecule).

In regards to claim 5, the nanoparticles are made of semiconductor, metal or oxide materials (fig. 9, Au).

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In regards to claim 7, said nanoparticles are made of a material comprising CdSe/ZnS, InAs, InP, GaP, GaAs, InSb, GaSb, GaN, Si, Ge, CdTe, CdTe, CdSe, ZnSe, ZnO, Au, Ag, Pt, Ni, Pd, In, Bi or mixtures thereof (fig. 9, Au).

In regards to claim 8, Pantano discloses method of forming a tip (figs. 4 and 9) device having at least a portion thereof operable as active media with respect to electromagnetic radiation (device is used in FRET applications), the method comprising reacting a nanoparticles solution, powder or film with at least a portion of a tip so as to bind a layer of nanoparticles to an outer surface of said at least portion of the tip (column 3, lines 10-15), said nanoparticles acting as the active media with respect to electromagnetic radiation (in the device of fig. 3).

In regards to claim 9, said tip device is made of or coated by a material selected from Si, Au, Ag, Pt, Ti, Co, Cr, Ir, combinations of these metals, Si₃N₄, TiN, glass, diamond and carbon (fig. 9, tip is Si and is coated by Au).

In regards to claim 10, the method comprises activating said at least portion of the tip before reacting the nanoparticles solution with said at least portion of the tip (column 3, lines 10-15).

In regards to claim 11, said tip is made of a material selected from insulator-, semiconductor- or conductor-based material (fig. 9, Si).

In regards to claim 12, the thickness of the nanoparticles-containing layer bound to the outer surface of the tip is from sub-monolayer thickness to multiple layers thickness (column 3, lines 10-15).

In regards to claim 13, the method comprises reacting said at least portion of the tip (fig. 9, Si) with linker molecules (MPS) so as to obtain a tip having at least a portion thereof bound to the linker molecules, and carrying out said reacting of said at least portion of the so-obtained tip with the nanoparticles solution (Au and column 3, lines 10-15).

In regards to claim 14, said linker molecules are organic molecules (MPS column 7, line 20) bearing at least two functional groups, one of the functional groups being capable to react and bind to the

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tips surface (as can be seen on the right side of fig. 9) and another of the functional groups being capable to react and bind to the nanoparticles (as can be seen on the left side of fig. 9).

In regards to claim 15, the method comprises providing a tip device made from Si, SiO₂, glass, titanium oxide, TiN or Si₃N₄ (fig. 9, Si), silanizing at least portion of the tip with an organosilane compound either in solution or in gas phase to form tip with at least a silanized portion (column 3, lines 10-15) and exposing the resulting tip to a solution, powder or film comprising nanoparticles to form the tip having at least portion thereof with the outer surface bound to the layer of nanoparticles, the nanoparticles-containing layer having a thickness selected from sub-monolayer, monolayer and multiple layers (column 3, lines 10-15 and fig. 9, Au).

In regards to claim 16, Pantano discloses an optical apparatus for the use in analyzing a sample, the apparatus comprising at least one tip device configured according to claim 1 (see above and fig. 3

In regards to claim 17, the apparatus comprises a light source assembly (31), which comprises a pumping source operable to generate excitation radiation and said at least one tip device (31 to 1), which when pumped emits exciting energy to irradiate a sample and thus cause a radiation response of the sample (column 8, lines 4-36).

In regards to claim 19, the apparatus comprises a light source assembly (31) and detection assembly (35), the detection assembly comprising said at least one tip device (1), which when excited by energy coming from a sample, generates a radiation response indicative of the sample excitation (column 8, lines 4-36).

In regards to claims 21-28, with an apparatus “configured and operable as a...” it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. Ex Parte Masham, 2 USPQ F.2d 1647 (1987). Since applicant does not disclose in the claims

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the structural differences that would cause this apparatus to be employed in the claimed way, the apparatus of Pantano reads on these claims.

In regards to claims 32-38 with a tip device being used “for FRET based microscopy”, “as a light source”, “for Raman microscopy”, “for second harmonic generation microscopy”, “for non-linear microscopy”, “for topography imaging”, and “for chemical force microscopy imaging”, it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex Parte Masham*, 2 USPQ F.2d 1647 (1987).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kara E Geisel whose telephone number is **571 272 2416**. The examiner can normally be reached on Monday through Friday, 8am to 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Gregory J. Toatley, Jr. can be reached on **571 272 2800 ext. 77**. The fax phone number for the organization where this application or proceeding is assigned is **571 273 8300**.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/Kara E. Geisel/
Patent Examiner
Art Unit 2877**

March 7, 2008